CHAPTER 4: Material Storage and Transportation

There are various regulations that address storage, usage, and transportation of hazardous materials to protect the environment, employees, and public. Printers may be subject to requirements for reporting, notifications, inspections, record keeping, using containers, and having areas that meet design and construction specifications, and more if the facility meets certain conditions. The various regulations define regulated materials differently and have different threshold management quantities so it is important to know if the material you have is included under a particular regulation. For example, the term "hazardous" referring to wastes under the hazardous waste regulations has additional requirements as hazardous materials under the transportation regulations. A material may have requirements under more than one regulation.

This chapter will provide a summary of environmental regulations for materials usually found at printing facilities that are not addressed in the other chapters, and will refer you to other applicable environmental chapters. Also review Sections Two and Three for related worker safety and health requirements relating to material usage and storage. It will be necessary to review the regulations and/or discuss questions with the regulating agency for specific requirements.

State agencies:
Michigan Department of Environmental Quality (MDEQ), Waste and Hazardous Materials Division (WHMD), has oversight of requirements for:

- Hazardous waste under ***Part 111 of Act 451***. See Chapter 2.3;
- Liquid industrial waste (includes nonhazardous used oil being recycled) under ***Part 121 of Act 451***. See Chapter 2.2;
- Solid waste under ***Part 115 of Act 451***. See Chapter 2.1;
- Hazardous and liquid industrial waste transportation under ***Act 138 of 1998***. See Chapter 2.2 and 2.3;
- PCB waste under portions of ***Part 147 of Act 451*** that was not preempted by the federal ***Toxic Substances Control Act (TSCA)***. See Chapters 4.4 and 2.3;
- Flammable and combustible liquids in aboveground storage tanks under ***Act 207 of 1941***. See Chapter 4.3;
- Petroleum and listed chemicals in underground storage tanks under ***Part 211, 213 and 215 of Act 451***. See Chapter 4.2;
- Liquefied petroleum gases (LPG) and compressed natural gases (CNG) under ***Act 207 of 1941***. Requirements not in guidebook, discuss with WHMD district office.

In This Chapter . . .

Water Division (WD) has oversight of requirements for:
- Materials stored outdoors at sites subject to storm water regulations. See Chapter 3.2.
- Polluting materials (includes salt, oils, and listed chemicals) under ***Part 31 of Act 451***. See Chapters 4.1 and 7.1.2.

Air Quality Division (AQD) has oversight of requirements for:
- Air emissions from product storage and processes, asbestos abatement activities during remodeling etc, under ***Part 55 of Act 451*** and federal ***Clean Air Act***. See Chapter 1.

Environmental Science and Services Division (ESSD) has oversight of requirements for:
- Hazardous materials storage reporting and toxic chemical release inventories under ***SARA Title III***. See Chapter 7.1.1;
- Annual wastewater reporting of discharges that contain critical materials. See Chapter 3.11.

Michigan Department of Consumer and Industry Services (CIS) has oversight of requirements for:
- Flammable and combustible liquids. See Chapter 28;
- Construction requirements for building and remodeling storage areas for high-hazard materials. See Chapter 29.

Michigan State Police has oversight of state and federal requirements for:
- Hazardous materials transportation overseen by the Motor Carrier Division. See Chapter 4.5.

Federal agencies:

U.S. Environmental Protection Agency (USEPA) has oversight of requirements for:
- Oils under the Spill Prevention, Control, and Countermeasure (SPCC) regulations (***40 CFR Part 112***). See Chapter 7.1.3 ;
- PCBs under ***TSCA*** regulations (***40 CFR Part 761***). See Chapter 4.4.

U.S. Department of Transportation (USDOT) has oversight of requirements for:
- Hazardous materials transportation. See Chapter 4.5.

Local agencies:

In addition to the above state and federal agencies, local ordinances and insurance companies may have additional requirements that must be followed. Contact your local building official, zoning office, fire departments, waste water treatment plants, insurance company, etc., for those requirements. See Section Three for construction and fire code information.

4.1 Secondary Containment for Storage Areas

Secondary containment is a structural means to control the impact of released materials to groundwater, surface water, and human exposure. Not all printers will have materials that are required to be stored in areas with secondary containment, although the practice is encouraged for all materials that may pose a risk to human health and the environment if released. It is usually cheaper to install and utilize containment structures than to clean up releases that contaminate groundwater, surface water, and soils.

Because printers may have different chemicals, each printing facility will need to determine if the materials on-site have containment requirements under the various regulations and permits. Use your inventory (see Chapter 2.1), knowledge how the material is stored, Material Safety Data Sheets (MSDS) information, along with the regulations' lists of regulated materials and permits, to determine if the printing facility has regulated materials in regulated amounts. A material may be regulated if it is specifically included on a list or its characteristics, such as being flammable, are listed. Materials may be subject to more than one regulation. If the facility has met or exceeded the threshold management quantities, then make sure the materials are managed under the strictest requirements.

For example, flammable and combustible liquids on-site have requirements under several regulations depending if containers or tanks are used, if the material is inside or outside, and the volume of the containers storage capacity.

- Some flammable and combustible liquids may be polluting materials as defined in the ***Part 5*** rules under ***Part 31 of Act 451***. If so, these and the other LIQUID polluting materials, have containment requirements if the printing facility meets or exceeds the threshold management quantities and if the facility does not meet any of the exemptions listed in Chapter 7.1.2. The ***Part 5*** polluting materials include oils, salts, and chemicals listed in the rules, and mixtures of these materials (See table 7.2 for some examples of chemicals found at printers). The containment area for LIQUIDS outdoors subject to the ***Part 5*** rules must be designed to hold, at a minimum, the greater volume of either 10 percent of all the containers, or 100 percent of the largest container volume, plus any precipitation that may accumulate in the area. Usage and storage areas of solid polluting materials must prevent releases from reaching groundwater and surface water through drains, sewers, or other means. There is a setback distance of 50 feet from designated wetlands and other surface water and additional requirements if the area is located within a 100-year flood plain. If subject to the ***Part 5*** rules, the printing facility must also have adequate surveillance to detect releases and implement procedures to prevent polluting materials from reaching the surface water or groundwater.
- See Chapter 28 for specific construction requirements for storing containers of flammable and combustible liquids.
- See Chapter 4.2 and 4.3 for requirements for flammable and combustible liquids, and other regulated materials, stored in aboveground and underground tanks. Also see administrative rule ***R 29.4406*** pertaining to loading and unloading areas of flammable and combustible liquids.
- See Chapter 4.5 for a summary regarding transportation regulations involving loading and unloading of hazardous materials including flammable and combustible liquids.

- See Chapter 7.1.3 and the federal requirements in ***40 CFR 112*** for oil storage containment areas and loading and unloading areas if the facility is subject to SPCC regulations.
- See Chapter 2.3.7 if the flammable liquid is a waste subject to the hazardous waste containment requirements.
- See Chapter 3.2.3 and the facility permit, for containment requirements if the printing facility is subject to storm water regulations.

Many environmental regulations do not specify how the containment structures must be built, only that they are capable of keeping releases from reaching surface water, groundwater, and public sewer systems. The containment must also be compatible with the material stored within them, and be impervious. For example, poured concrete floorings are usually given an epoxy or other sealant coating. Cinder or concrete block walls are not impervious. It is also important to incorporate squirt protection so if a container ruptures, or is punctured, the contents cannot squirt out beyond the containment structure. The MDEQ document, *"The Guide to Understanding Secondary Containment Requirements in Michigan,"* provides additional information. If you feel there is a conflict between the regulations, discuss those with the regulating agencies.

Containment does not have to be expensive to be effective. Examples of secondary containment include:

- Metal drip pans under equipment;
- Enclosed cabinets with sealed flooring;
- Portable containment units or spill pallets (Note: spill pallets without sides do not meet the hazardous waste containment requirements for liquids because they do not provide squirt protection.);
- Smaller containers placed in another larger container (e.g., a 5-gallon jug put in a plastic storage box or a cut down 55-gallon drum);
- Plastic children's swimming pool; or
- Curbing, retaining walls, and floors designed with a slight slope to pool released liquids.

Prefabricated or fabricated containment units may be purchased or containment structures can be built to your specifications by suppliers or facility employees.

Consider the following when selecting or designing a structure:

- *Structural strength* so the containment is capable of supporting the weight of the loads placed on it, including the materials and equipment that will enter the area;

- *Impermeability* so the containment is resistant to penetration of the materials contained in the structure. For example, an area storing acids or corrosives should not be a concrete area, unless the concrete has been sealed with a coating that makes it resistant to the chemicals;

- *Compatibility* of the construction materials with the substances contained in the structure and the structure's design should provide separation areas for incompatible substances;

- *Integrity* so there are no drains, other piping, or openings of any kind where liquids may escape. For example, seal all joints and cracks and do not include floor drains in the area or use cinder blocks in the construction;

- *Security* to prevent vandalism and the entry of unauthorized persons to the area. The containment must allow emergency personnel and equipment to enter. Sumps included in the design should be manually controlled;

- *Protection* from extreme temperatures including ignition sources; and

- *Squirt distance control* to contain any liquids spurting from the containers if a leak occurred.

Some other things to consider when designing your secondary containment area include:

- Avoid creating confined spaces;
- Adequate lighting and ventilation;
- Required isolation distances from property lines, public ways, buildings, etc.; and
- How employees will move materials in and out of the area.

Any collected liquids and materials from secondary containment structures must be characterized to determine if they are a regulated hazardous or liquid industrial waste (see Chapter 2). Additionally, if your facility is subject to the Storm Water Discharge Permit Program (see Chapter 3.2.3), you will need to meet the sampling and monitoring requirements explained in your permit.

Releases, and subsequent removal of material from containment areas, can usually be prevented by using common sense and care when storing and transferring materials. Tips include:

- Train all personnel handling the materials about spill prevention and response techniques. Some regulations indicate who, at a minimum, must be trained;
- Practice safe loading and unloading procedures;
- Keep container lids and covers closed to control spills and evaporation. Many regulations require this;
- Post appropriate warning and instructional signs in usage and storage areas;
- Adequately label all containers;
- Use pumps or funnels to transfer liquids;
- Use seal-less pumps;
- Install splash guards and drip boards on tanks and faucets;
- Use drip buckets under liquid spigots;
- Have sorbent materials (e.g., kitty litter, pigs, pads), and devices or covers that block drains, readily available where they may be used if there is a release;
- Prohibit transferring or draining of fluids outside over the ground or on pavement not designed for containment;
- Conduct regular inspections to identify leaks or other problems; and
- Have inventory control procedures to track materials from receipt to ultimate use or disposal and use to determine if releases have occurred.

4.2 Underground Storage Tanks

Some printers utilize underground storage tanks (USTs), for fuel or product storage. The storage and handling of products such as gasoline, diesel fuel, fuel oils, and other liquid chemicals can have environmental and safety consequences if the tanks are not properly installed and maintained. Also, the product transfer operations must be properly managed to minimize the possibility of releases and possible fire hazards. Storage tank regulations were designed to promote the safe storage and handling of flammable and combustible liquids such as petroleum products and other hazardous substances. Following the regulations will promote safer storage and handling practices and result in economic benefits to manufacturers and consumers.

USTs are regulated by the MDEQ under ***Parts 211*** (***Michigan Underground Storage Tank Regulations [MUSTR]***), ***213*** (***Leaking Underground Storage Tanks [LUST]***) and ***215*** (***Michigan Underground Storage Tank Financial Assurance [MUSTFA]***) of ***Act 451***, the ***Michigan Fire Prevention Code Public Act 207 of 1941, as amended (Act 207)***, and the ***Storage and Handling of Flammable and Combustible Liquids Rules*** (see Chapter 4.3).

A regulated UST is defined as a UST or combination of USTs and underground connected piping that have at least 10 percent of their volume underground and are, were, or may have been used to contain a regulated substance. A regulated substance is defined as a petroleum based product or solvent; a CAA Section 112(r) substance; or any chemical included on the hazardous substance-CERCLA list in the federal ***Comprehensive Environmental Response, Compensation, and Liability Act*** (***CERCLA***). Gasoline and perchloroethylene are examples of regulated substances. USTs that are not regulated under the above regulations include USTs storing heating oil for consumptive use on the premises where the tank is located, USTs holding a regulated hazardous waste (see Chapter 2.3.), and USTs with a capacity of 1,100 gallons or less used for noncommercial purposes. Other requirements concerning the location of USTs, fire extinguishers, and related equipment used for dispensing fuel and providing collision protection can be found in the ***Storage and Handling of FL/CL Rules*** administered by the WHMD. Contact the WHMD district office and find information at **www.michigan.gov/deq** under the “Land,” “Storage Tank” links regarding UST requirements which include:

- Registration and annual fees;
- Financial responsibility and insurance requirements;
- Spill protection, overfill prevention, corrosion protection, and release detection for existing and new installations;
- Tank removal, closure, and changes of stored material;
- Record keeping requirements;
- Releases, reporting, and investigation (also see Chapter 7);
- Site assessments for determining any past releases;
- Corrective action and hiring qualified underground storage tank consultants; and
- Baseline Environmental Assessments (BEA) (also see Chapter 5).

4.3 Aboveground Storage Tanks

Aboveground storage tanks (ASTs) are often used for the same purposes as USTs. An AST system has less than 10 percent of the volume of the storage tank system underground. While AST systems do not pose the same environmental or human health risks as USTs, the impacts may be significant if their contents are accidentally released. One advantage of ASTs is that they are highly visible so any leaks or defects can be detected early.

The ***Storage and Handling of Flammable and Combustible Liquids Rules*** (***FL/CL Rules***), provide fire prevention and environmental protection regulations for ASTs. The WHMD oversees the storage of flammable and combustible liquids having a flashpoint below 200° Fahrenheit. The rules adopt by reference the following four National Fire Protection Association (NFPA) pamphlets: NFPA 30 (1990 edition), NFPA 30A (1990 edition), NFPA 31(1987 edition), and NFPA 395 (1988 edition). ***Parts 2*** through ***5*** of the ***FL/CL Rules*** provide additional Michigan-specific requirements and amendments to these pamphlets.

The ***Storage and Handling of Liquid Petroleum Gas Rules*** (***LPG Rules***) adopt by reference NFPA 58 (1998 edition) and provide the regulatory requirements for the storage of liquefied gases such as propane, propylene, butane, and butylene including their isomers. These are flammable gases under normal temperature and pressure**.** The gases are usually stored under pressure, causing them to become liquid**.** If the gases are released, they will vaporize to more than 270 times the liquid volume. A major release of these gases could result in explosion, fires, and significant air pollution encompassing a large area of land.

Liquefied petroleum gases (LPG) are usually stored in ASTs that are designed for higher working pressures under the American Society of Mechanical Engineers (ASME) Code. These ASTs are designated as pressure vessels. The LPG Rules allow the installation of USTs only after the plan review is approved by the WHMD.

The ***Compressed Natural Gas Vehicular Fuel Systems Code*** (***CNG Rules***) adopts by reference the NFPA 52 (1992 edition). The ***CNG Rules*** allow for the gas to be used as an alternate fuel in motor vehicles that are designed or converted for this purpose. CNG is considered to be much more environmentally friendly than the liquid petroleum products. However, the storage and handling of CNG can be a major safety hazard if the tank is not installed and operated properly.

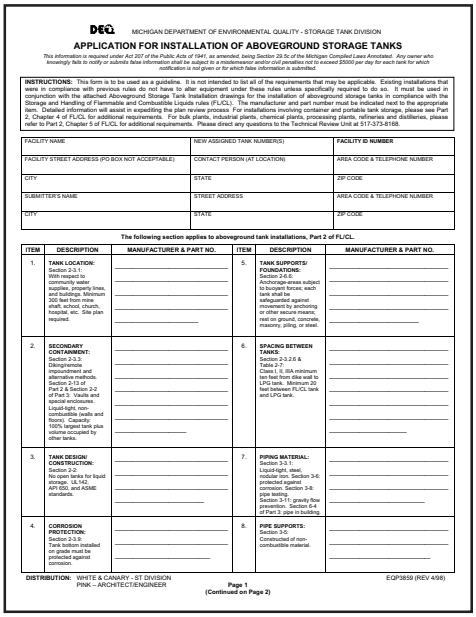
The CIS also regulates the storage and usage of flammable and combustible liquids, pursuant to the ***Michigan Occupational Safety and Health Act*** (see Chapter 28). The CIS also administers the ***Michigan Construction Code*** requirements for building or remodeling a business to include a storage area for flammable and combustible liquids (see Chapter 29). See Chapter 1.4 regarding air quality requirements pertaining to the emission of volatile organic compounds (VOCs) from storage tanks. The MDEQ, WHMD regulates the storage of hazardous waste (see Chapter 2.3).

Aboveground storage locations that fit one or more of the following conditions must be plan reviewed and certified by the WHMD:

- Any flammable compressed gas or LPG container filling location.
- A facility that supplies flammable compressed gas or any LPG that has a tank with a water capacity of more than 2,000 gallons, or two or more tanks with an aggregate water capacity of more than 4,000 gallons.
- A facility that supplies flammable liquid or combustible liquid that has an individual tank storage capacity of more than 1,100 gallons.

4.3.1 Installation

The plan review form, *"Application For Installation of Aboveground Storage Tanks" (EQP 3859)*, gives you a complete list of what must be submitted with your application, including the plan review fee of $203 for each AST being installed. Plans are reviewed within 45 days after receipt. Following review of the plans, you will receive a letter indicating approval or denial of the plan. For a denial, the deficiencies are listed. The deficiencies need to be corrected before approval can be granted. Once the plan review is approved, a Hazardous Materials Storage Inspector will inspect your facility prior to placing an AST in service and after the installation is complete.



DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - STORAGE TANK DIVISION

APPLICATION FOR INSTALLATION OF ABOVEGROUND STORAGE TANKS

This information is required under Act 207 of the Public Acts of 1941, as amended, being Section 29.7c of the Michigan Compiled Laws Annotated. Any owner who knowingly fails to notify or submits false information shall be subject to a misdemeanor and/or civil penalties not to exceed $5000 per day for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS: This form is to be used as a guideline. It is not intended to list all of the requirements that may be applicable. Existing installations that were in compliance with previous rules do not have to alter equipment under these rules unless specifically required to do so. It must be used in conjunction with the attached Aboveground Storage Tank Installation drawings for the installation of aboveground storage tanks in compliance with the Storage and Handling of Flammable and Combustible Liquids rules (FL/CL). The manufacturer and part number must be indicated next to the appropriate item. Detailed information will assist in expediting the plan review process. For installations involving container and portable tank storage, please see Part 2, Chapter 4 of FL/CL for additional requirements. For bulk plants, industrial plants, chemical plants, processing plants, refineries and distilleries, please refer to Part 2, Chapter 5 of FL/CL for additional requirements. Please direct any questions to the Technical Review Unit at 517-373-8168.

FACILITY NAME	NEW ASSIGNED TANK NUMBER(S)	FACILITY ID NUMBER
FACILITY STREET ADDRESS (PO BOX NOT ACCEPTABLE)	CONTACT PERSON (AT LOCATION)	AREA CODE & TELEPHONE NUMBER
CITY	STATE	ZIP CODE
SUBMITTER'S NAME	STREET ADDRESS	AREA CODE & TELEPHONE NUMBER
CITY	STATE	ZIP CODE

The following section applies to aboveground tank installations, Part 2 of FL/CL.

ITEM	DESCRIPTION	MANUFACTURER & PART NO.	ITEM	DESCRIPTION	MANUFACTURER & PART NO.
1.	**TANK LOCATION:** Section 2-3.1: With respect to classified motor vehicles, property lines, and buildings, Minimum 300 feet from mine shaft, school, church, hospital, etc. Site plan required.		5.	**TANK SUPPORTS/ FOUNDATIONS:** Section 2-6.4: In locations where subject to buoyant forces, each tank shall be safeguarded against movement by anchoring or other secure means; rest on ground, concrete, masonry, piling, or steel.	
2.	**SECONDARY CONTAINMENT:** Section 2-3.3: Dike/remote impoundment and alternative methods. Section 2-13 of Part 2 & Section 2-2 of Part 3: Vaults and special enclosures. Liquid-tight, non-combustible walls and floors). Capacity: 100% largest tank plus volume occupied by other tanks.		6.	**SPACING BETWEEN TANKS:** Section 2-3.2.6 & Table 2-7: Class I, II, IIIA minimum ten feet from dike wall to LPG tank. Minimum 20 feet between FL/CL tank and LPG tank.	
3.	**TANK DESIGN/ CONSTRUCTION:** Section 2-2: No open tanks for liquid storage. UL142, API 650, and ASME standards.		7.	**PIPING MATERIAL:** Section 3-3.1: Liquid-tight, steel, nodular iron. Section 3-6: protected against corrosion. Section 3-8: pipe testing. Section 3-11: gravity flow prevention. Section 6-4 of Part 3: pipe in building.	
4.	**CORROSION PROTECTION:** Section 2-3.9: Tank bottom installed on grade must be protected against corrosion.		8.	**PIPE SUPPORTS:** Section 3-5: Constructed of non-combustible material.	

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You may request the applicable plan review form, *"Application For Installation of Aboveground Storage Tanks" (EQP 3859)*, and get assistance completing this form by calling the WHMD at 517- 373-8168 or go to **www.michigan.gov/deq** under "Land," "Storage Tank."

A certification fee of $61.50 is assessed annually per year/per tank. The billing period is October 1 of year X through September 30 of the following year. The certification fee for CNG tanks is based on standard cubic feet per minute (SCFM) storage capacity. One tank is considered to be 18,500 SCFM.

ASTs storing flammable and combustible liquids that do not have to be plan reviewed are still subject to the following requirements found in the ***Storage and Handling of FL/CL Rules***.

4.3.2 Secondary Containment

Most ASTs must have secondary containment. Several containment systems are acceptable to the WHMD: tanks with built in secondary containment, vaulted systems, concrete encasement, and lightweight thermal insulated tanks. For information on secondary containment, call the WHMD directly at 517-373-8168. There are also alternative methods of secondary containment, which must be approved during the plan review conducted by the WHMD. For more information about secondary containment, see Chapter 4.1.

4.3.3 Corrosion Protection

Most ASTs must have corrosion protection. A single- or double-bottom shop-manufactured tank that has an external mastic-coated bottom can only be installed on a concrete or asphalt pad. Cathodic protection that is properly engineered and maintained must be used for the exterior of single- or double-bottom tanks that are installed on earth and gravel. Also, cathodic protection can be used on single- or double-bottom tanks that are installed on a concrete or asphalt pad. Additional requirements and guidelines can be found in the ***Storage and Handling of FL/CL Rules***.

4.3.4 Control of Ignition Sources

ASTs, as regulated, have fire hazards. Precautions should be taken to prevent the ignition of flammable vapors. Sources of ignition include but are not limited to: open flames, cutting and welding, thermal heat, spontaneous ignition, stray currents, smoking, etc. All equipment such as tanks, machinery, and piping must be bonded or otherwise connected to the ground to prevent static electricity.

4.3.5 AST System Out-of-Service

An AST system that is going to be out-of-service for more than 12 months must follow the proper procedures. The AST system owner/operator is required to have the tank and related piping completely emptied and cleaned (professionally) to a vapor free condition. The piping must be disconnected from the AST system. The AST system must also be safeguarded against trespass. The owner/operator has the option of removing the tank system from the property. All tanks removed from the property must be disposed of properly. The facility owner/operator must submit the *EQP 3858, "Change of Information Form for ASTs,"* to notify the WHMD that the AST system is out-of-service or of the AST removal.

4.3.6 Releases, Reporting, and Investigation

Releases or suspected releases of a regulated substance from flammable and combustible liquid ASTs and heating oil ASTs must be reported to the appropriate Remediation and Redevelopment Division (RRD) district office (see Appendix C for phone numbers) and the local fire department having jurisdiction, or PEAS at 800-292-4706 within Michigan or 517-373-7660 if outside Michigan. Some signs that a release has occurred are visibly stained soils, holes in the AST, and odoriferous soils.

4.3.7 Emergency Planning and Training

You need to know what to do in case of a fire, spill, or any on-site emergency. An emergency action plan must be available and made known to employees to respond to fire or other emergencies. (Alternate fire safety measures on-site must be in place while any fire safety equipment is shut down.) This emergency plan should be coordinated with your local emergency response agencies, such as fire, police, etc. In most cases, your local agencies will respond to your alarm or call. Additional requirements for release prevention and response planning is found in Chapter 7. Without a proper emergency plan in place, you are likely to lose more products, increase your costs of cleanup, and endanger the environment and human lives.

4.3.8 Baseline Environmental Assessment (BEA)

Please see Chapter 5.4.2 for information on the BEA process and to avoid liability for existing contamination when purchasing/leasing/operating at a site of contamination.

4.4 Storage of Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are subject to state and federal regulations. PCBs and oils and other compounds or products containing 1 percent or more, by weight, of PCBs, are a polluting material under the state ***Part 5*** administrative rules promulgated under ***Part 31 of Act 451*** except if it is in oil containing electrical equipment such as transformers and capacitors. See Chapters 4.1 and 7.1.2 for more information about those requirements.

Printers are likely to be subject to the federal (TSCA) if they have a facility with older electrical systems and have regulated amounts of PCBs, or if a device is leaking PCBs. Regulations apply to the manufacture, processing, distribution in commerce, marking, use, storage, and disposal of PCBs. There are different requirements based on the following PCB concentration levels:

- < 50 ppm (or # 10 micrograms/100 cm^2 if contaminated surfaces),
- $ 50 ppm to < 500 ppm (or > 10 micrograms/100 cm^2 but < 100 micrograms/100 cm^2 if contaminated surfaces),
- $ 500 ppm (or $ 100 micrograms/100 cm^2 if contaminated surfaces).

Since these rules are too numerous to include in this publication, the following only summarizes how to identify PCBs and mentions a few requirements.

If you have regulated PCBs or have questions about PCBs, call USEPA Region 5 at 800-621-8431 or visit their web site at www.epa.gov/pcb.

4.4.1 Identifying PCBs

PCBs can be found in liquid, nonliquid, and a combination of liquid and nonliquid forms. Usually this chemical can be found in electrical equipment or may be a byproduct of the manufacturing process. (See the definitions for “excluded manufacturing process” and “excluded PCB products” in the regulations to determine if any exclusions apply to your PCB waste.) PCBs may be found in dielectric fluids, solvents, oils, hydraulic fluids or other heat transfer fluids, paints or coatings, sludges, slurries, and other chemical substances.

PCBs were marketed under various trade names. These include:

- Abestol
- Aroclor
- Askarel
- Chlophen
- Chlorextol
- DK
- EEC-18
- Fenclor
- Inerteen
- Kennechlor
- No-Flamol
- Phenoclor
- Pyralene
- Pyranol
- Saf-T-Kuhl
- Solvol

Additional information on how to identify PCBs is on the Internet at **www.epa.gov/toxteam/pcbid**.

You can do any of the following to determine if you have regulated PCB concentrations:

- Look at the equipment label or nameplate for the words “No PCBs” or “PCBs” or any of the PCB trade names. If the nameplate is not readable, you may want to check with the equipment manufacturer for documentation as to the PCB concentration;

- Review service records or other documentation that indicates the PCB concentration of all fluids used since the article was first manufactured. You may need to check with your utility company to see if they have any records regarding the PCB concentration; or

- Have the equipment tested.

If you do not have documentation or have not had tests conducted that identify the PCB level, you may use the following assumptions regarding PCB concentrations for use or storage for reuse. You will need to know the actual concentration at the time of disposal.

- Transformers and capacitors with less than 3 pounds of fluids, circuit breakers, reclosers, oil-filled cable, and rectifiers can be assumed to contain less than 50 ppm.

- Mineral oil-filled electrical equipment manufactured before July 2, 1979, contains $ 50 ppm to < 500 ppm. If the date of manufacture is unknown, assume it is PCB-contaminated.

- Transformers manufactured before July 2, 1979, that contain 3 pounds or more of fluid, other than mineral oil, contain $ 500 ppm. If the date of manufacture is unknown, assume it is a PCB-transformer.

- Capacitors manufactured before July 2, 1979, contain $ 500 ppm. Assume any capacitors manufactured after that date are non-PCB. If the date of manufacture is unknown, assume it contains $ 500 ppm.

- For any electrical equipment manufactured after July 2, 1979, assume it is nonPCB.

You must label specific items with the applicable mark that identifies them as containing PCBs. See ***40 CFR Part 761, Subpart C*** regarding these requirements.

4.4.2 General Record Keeping and Reporting Requirements

As of February 5, 1990, owners or operators of facilities other than commercial PCB storage and disposal facilities that use or store the following PCB items must maintain annual records (manifests, certificates of disposal, and inspection and cleanup records) and prepare an annual document log if they have or do any of the following:

- Use or store at any one time at least 45 kilograms (99.4 pounds) of PCBs contained in PCB containers;
- Have one or more PCB transformers; or
- Have 50 or more PCB large high- or low-voltage capacitors.

The log must be prepared by July 1 and must include specific information for bulk PCB, PCB articles, PCB containers, and PCB article containers for the previous calendar year (January through December). All these records must be kept at least three years after the facility ceases use or storage of the PCBs.

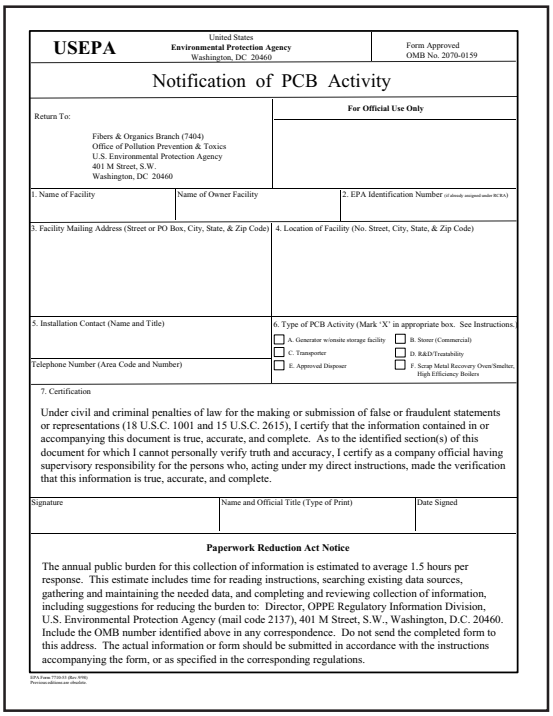
Keep a copy of all manifests used to ship PCB wastes to storage or disposal facilities (with the transporter's signature) until you receive signed copies back from the storage or disposal facility. You should receive this copy within 30 days of delivery of the PCB waste. Keep the copy signed by the receiving facility for at least three years from the date of shipment, unless it is part of the annual records discussed above. Use the manifest required by the state where the storage or disposal facility is located. See ***40 CFR 761, Subpart K*** for more details and Chapter 4.4.5 for codes used on Michigan manifests.

4.4.3 Notification Requirements

Not all generators need to notify USEPA that they handle regulated PCBs, but all transporters and commercial storage and disposal companies do. A generator with a regulated PCB storage area as per ***40 CFR Part 761.65(b)*** must notify USEPA. A generator without a regulated PCB storage area that disposes waste PCBs within 30 days does not have to notify. A generator that keeps PCBs longer than 30 days must notify. USEPA has two notification forms on the Internet — a *"Notification of PCB Activity" (Form 7710-53)* and *"PCB Transformer Registration (Form 7720-12)."*

To notify, a generator must obtain an identification number from USEPA. If the generator already has an EPA number assigned under the hazardous waste program (see Chapter 2), USEPA will confirm the use of this number under the TSCA program. If companies do not have an USEPA number assigned under another program, USEPA will issue a number. Do NOT use the *"Michigan Hazardous Waste Notification Form" (EQP 5150)* to request an USEPA number for handling PCBs. If you have notified USEPA on the *"Notification of PCB Activity"* form and your activities change, you must resubmit a revised USEPA *Form 7710-53*.

If a facility has PCB Transformer, it must fill out the *"PCB Transformer Registration" (Form 7720-12).* Both of these forms are found at the USEPA Web site **www.epa.gov/pcb**.



USEPA
United States
Environmental Protection Agency
Washington, DC 20460
Form Approved
OMB No. 2070-0159

Notification of PCB Activity

Return To:
Fibers & Organics Branch (7404)
Office of Pollution Prevention & Toxics
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

For Official Use Only

1. Name of Facility | Name of Owner Facility | 2. EPA Identification Number (if already assigned under RCRA)

3. Facility Mailing Address (Street or PO Box, City, State, & Zip Code)

4. Location of Facility (No. Street, City, State, & Zip Code)

5. Installation Contact (Name and Title)

Telephone Number (Area Code and Number)

6. Type of PCB Activity (Mark 'X' in appropriate box. See Instructions.)
☐ A. Generator w/onsite storage facility ☐ B. Storer (Commercial)
☐ C. Transporter ☐ D. R&D/Treatability
☐ E. Approved Disposer ☐ F. Scrap Metal Recovery Oven/Smelter, High Efficiency Boilers

7. Certification

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as a company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

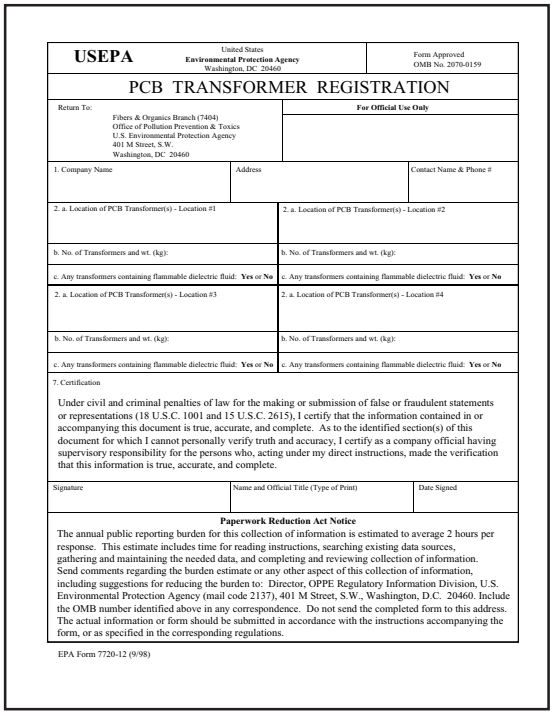
Signature | Name and Official Title (Type of Print) | Date Signed

Paperwork Reduction Act Notice

The annual public burden for this collection of information is estimated to average 1.5 hours per response. This estimate includes time for reading instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing collection of information, including suggestions for reducing the burden to: Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (mail code 2137), 401 M Street, S.W., Washington, D.C. 20460. Include the OMB number identified above in any correspondence. Do not send the completed form to this address. The actual information or form should be submitted in accordance with the instructions accompanying the form, or as specified in the corresponding regulations.

EPA Form 7710-53 (Rev. 9/98)
Previous editions are obsolete.

EPA Form 7710-53



USEPA
United States
Environmental Protection Agency
Washington, DC 20460
Form Approved
OMB No. 2070-0159

PCB TRANSFORMER REGISTRATION

Return To:
Fibers & Organics Branch (7404)
Office of Pollution Prevention & Toxics
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

For Official Use Only

1. Company Name | Address | Contact Name & Phone #

2. a. Location of PCB Transformer(s) - Location #1
b. No. of Transformers and wt. (kg):
c. Any transformers containing flammable dielectric fluid: **Yes** or **No**

2. a. Location of PCB Transformer(s) - Location #2
b. No. of Transformers and wt. (kg):
c. Any transformers containing flammable dielectric fluid: **Yes** or **No**

2. a. Location of PCB Transformer(s) - Location #3
b. No. of Transformers and wt. (kg):
c. Any transformers containing flammable dielectric fluid: **Yes** or **No**

2. a. Location of PCB Transformer(s) - Location #4
b. No. of Transformers and wt. (kg):
c. Any transformers containing flammable dielectric fluid: **Yes** or **No**

7. Certification

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as a company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Signature | Name and Official Title (Type of Print) | Date Signed

Paperwork Reduction Act Notice

The annual public reporting burden for this collection of information is estimated to average 2 hours per response. This estimate includes time for reading instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (mail code 2137), 401 M Street, S.W., Washington, D.C. 20460. Include the OMB number identified above in any correspondence. Do not send the completed form to this address. The actual information or form should be submitted in accordance with the instructions accompanying the form, or as specified in the corresponding regulations.

EPA Form 7720-12 (9/98)

EPA Form 7720-12

4.4.4 Storing PCB Articles

Different regulations apply to storing PCBs for reuse and storing PCB waste. PCB articles such as capacitors, transformers, electric motors, pumps, and other manufactured items can be stored in nonpermitted areas for reuse by the owner or facility operator, under specific conditions. Articles can be stored no more than five years after being removed from use or five years after August 28, 1998, whichever is later. If necessary to store longer, you must request an extension period from USEPA or place the article in an area that meets specific design requirements or has a ***RCRA*** permit. Articles may be stored for use indefinitely if kept in an area that meets specific design requirements, such as having a roof, walls, and diking, or has a ***RCRA*** permit for managing hazardous waste. Discuss the specific storage design requirements with USEPA. Call the MDEQ WHMD at 517-373-9875 to discuss ***RCRA*** permit requirements.

- Date the article was removed from service or August 28, 1998, if removal date is unknown;
- Projected location and future use of the article; and
- Date of scheduled repair or servicing, if applicable.

You must also meet all the use requirements in ***40 CFR 761.30***, including marking requirements.

Use areas and indoor storage areas for PCB polluting materials must be designed, constructed, maintained, and operated to prevent releases of polluting materials through sewers, drains, or to a public sewer system or to surface water or groundwater. If the PCB material is stored outdoors and is in liquid form, there are secondary containment requirements under ***Part 31 of Act 451 administrative rule R 324.2005***.

PCB wastes can also be sent to an approved storage facility with a manifest before being disposed of. USEPA has a list of these facilities on the Internet. Be sure to allow enough time to transport the PCB waste from the storage facility to the disposal company, and have the waste disposed of within the allowable one year time frame.

4.4.5 PCB Disposal

Disposal of PCB waste is regulated by both USEPA under ***TSCA*** and the WHMD under ***Part 115, Part 121***, and ***Part 147 of Act 451***. Any regulated PCB waste under ***TSCA*** must be disposed of within one year from the date it was determined to be a waste, unless USEPA granted an extension. Regulated PCBs must be manifested and disposed of at an approved facility. In addition to the federal information required to be listed on manifests, PCB shipments must include the following additional information as required by ***Part 147 of Act 451 administrative rule R 299.3316(2)***:

- Physical state (e.g. solid or liquid)
- Composition (e.g. soil, debris, capacitors, oil, etc.)
- Concentration in the material
- Quantity (Although there is no specific unit of measure that must be used for PCB manifests, many facilities use kilograms because other PCB records or documents require kilograms to be used.)

Use the waste number of 026L for listing PCB liquid waste on a *"Michigan Uniform Hazardous Waste Manifest" (EQP 5110)*.

USEPA has a list of PCB disposal facilities on the Internet. You should receive a *"Certificate of Disposal"* from the disposal facility within 30 days of the disposal completion date, unless a different time frame is identified in a contractual agreement between the generator and disposal facility. (See the regulations regarding the disposal of PCB bulk product waste and its complete definition.) Bulk product waste includes some waste derived from manufactured products that are in a non-liquid state and have PCB concentrations greater than or equal to 50 ppm; debris from building demolition; and other manmade structures that are PCB manufactured, coated, or serviced with PCBs. See Chapter 2.3.2.f for information about capacitor and ballast disposal. Contact RRD district office regarding information about PCB soil cleanup criteria.

4.5 Transportation, Shipping, and Receiving of Hazardous Materials

The transportation of hazardous material is regulated by the USDOT. The USDOT operates under the authority of the ***Hazardous Materials Transportation Act (HMTA)*** and the ***Hazardous Materials Regulations (HMR)*** contained in ***Title 49, Parts 100-180 of the Code of Federal Regulations***, administered by the Research and Special Programs Administration (RSPA). On January 8, 1997, the RSPA published ***Rule HM-200***, which expanded the application of the HMR to intrastate transportation. This means that the regulations apply to both intrastate (within the state) and interstate (anywhere within the United States) commerce. Michigan's ***Motor Carrier Safety Act, Public Act 181 of 1963, as amended (Act 181)*** adopted the ***Hazardous Materials Regulations*** and the ***Federal Motor Carrier Safety Regulations*** into state law.

4.5.1 Hazardous Material Transporters

The USDOT defines a hazardous material as "a substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, which includes hazardous waste." Hazardous material may pose varying degrees of risk in transportation, depending on the type of substance. Transporters of hazardous goods must be aware of how these materials are classified to ensure compliance with marking, labeling, placarding, and shipping paper requirements. Hazardous material may be classified as any of the following: explosives, gases, flammable liquids, flammable solids, oxidizing substances, poisons and infectious substances, radioactive material, corrosives, miscellaneous goods, and other regulated materials (ORM).

A table of hazardous material classes and an index to their class definition are included in ***Title 49, Part 173.2 of the Code of Federal Regulations***. If the commodity you are transporting is included in one of the classifications identified, you are subject to the USDOT's ***Hazardous Materials Regulations***. The table of hazardous materials is contained in ***Title 49, Part 172.101 of the Code of Federal Regulations***. This table is more detailed and lists proper shipping names, class/division numbers, and provides guidance for the packaging and handling of specific hazardous material. This table can be downloaded off the Internet at **http://hazmat.dot.gov/ohmforms.htm**.

4.5.2 Liability of Improper Shipments of Hazardous Materials

Compliance with the HMRs is the responsibility of both the shipper and carrier. General shipper responsibilities are contained in ***Title 49, Part 173 of the Code of Federal Regulations***. In many cases, shipper and carrier responsibilities overlap. Although both the shipper and the carrier can perform the task, the carrier is ultimately liable for it. ***Title 49, Part 387 of the Code of Federal Regulations*** sets the insurance requirements for vehicles transporting certain amounts of hazardous materials. Both Michigan and federal law require the carrier to maintain proof of financial responsibility on the federal form, *"Endorsement for Motor Carrier Policies of Insurance for Public Liability Under Sections 29 and 30 of the Motor Carrier Act of 1980" (MCS-90).* Additionally, both carriers and shippers must properly train their employees as required in ***49 CFR 172***. Table 4.1 summarizes shipper and carrier responsibilities.

Table 4.1 Shipper and Carrier Responsibilities	
Shipper Responsibilities	- Determine whether the material meets the definition of a hazardous material-USDOT - Assign proper shipping name - Determine class/division - Assign identification number - Apply hazard warning labels - Provide shipper certification - Properly package, mark, and placard materials and carrier - Ensure compatibility between materials - Properly block and brace cargo - Identify and maintain 24-hour emergency response telephone number and emergency response information
Carrier Responsibilities	- Meet shipper's requirements when performing shipper's functions - Compile shipping papers - Placard carrier and properly mark materials - Load and unload cargo - Ensure compatibility between materials - Properly block and brace cargo

4.5.3 Hazardous Materials Registration Program

The ***Hazardous Materials Regulations*** require registration for each person that offers or transports any shipment of hazardous materials that requires placarding (with an exception for farmers offering or transporting hazardous materials in direct support of their farming activities). The annual registration fee is $300 for each person meeting the Small Business Administration's size standard for a small business and $2,000 for each person that does not meet those standards. Information about the USDOT's Hazardous Materials Registration Program including the registration statement (*DOT F 5800.2*) and instruction booklet can be found at **http://hazmat.dot.gov/register.htm**.

You can also call the Hazardous Materials Registration Program at 202-366-4109 to receive instructions on how to register and obtain the *"Hazardous Materials Registration Statement" (DOT F 5800.2).*

4.5.4 Shipping Papers

Stipulations for hazardous material shipping papers are contained in ***49 CFR 172, Subpart C***. According to the ***Hazardous Materials Regulations***, a shipping paper is any shipping document that communicates a hazard and conforms to the requirements contained in the subpart. Essentially, all shipping papers must have four elements referred to as a basic shipping description: (1) proper shipping name; (2) hazard class/division; (3) identification number (4digit number proceeded by "NA" or "UN"); and (4) packaging group (a grouping according to the degree of danger presented by hazardous materials – I, II , or III). All this information is provided in the Hazardous Materials Table contained in ***49 CFR 172.101***. When preparing your shipping papers, the basic shipping description must be entered in the order shown above.

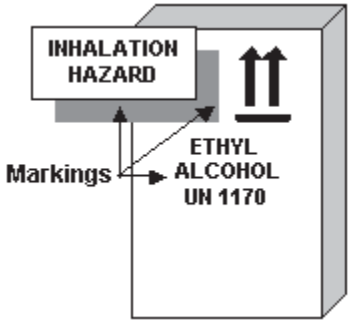
In addition to the basic shipping description, shipping papers may also contain the following:

- The total quantity transported.
- Shipper certification – certifies materials being transported are in compliance with regulations.
- Emergency response telephone number and response information – specific requirements pertaining to this information are outlined in ***49 CFR 172.602 - 603***.

The *"North American Emergency Response Guidebook"* is a reference guide that identifies the proper response procedures that should be taken in the event of a hazardous materials spill or accident. It also lists specific and generic hazards associated with a particular material. The guidebook can be accessed from the Internet at **http://hazmat.dot.gov/gydebook.htm**.

Depending on the material being transported, there may be additional requirements, which are contained in ***49 CFR 172.203***. In addition, proposed revisions to the ***Federal Hazardous Materials Transportation Law*** require that shipping papers (in paper or electronic form) be retained for a period of at least three years after the shipping paper is provided to the carrier.

4.5.5 Marking

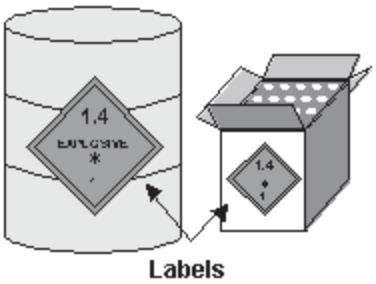


Markings are placed directly on the outer packaging of hazardous material to identify the contents inside. The marking will provide a descriptive name, identification number (4-digit number proceeded by "UN" or "NA"), specifications, plus any required instructions and/or cautions.

The provisions for marking packages are contained in ***49 CFR 172, Subpart D***. The basic marking requirement consists of the proper shipping name (e.g., Ethyl Alcohol) and the identification number (e.g., UN 1170) of the hazardous material contained in

the package. This information is provided in the Hazardous Materials Table contained in ***49 CFR 172.101***, which can be downloaded from the Internet at **http://hazmat.dot.gov/ohmforms.htm**. Depending on the material, there may be additional marking requirements. Empty container exceptions as well as information on authorized abbreviations; bulk packaging; liquid hazardous materials; and marking requirements for explosives, poisonous, and ORM-D materials can all be found in ***49 CFR 172, Subpart D***.

4.5.6 Labeling of Containers

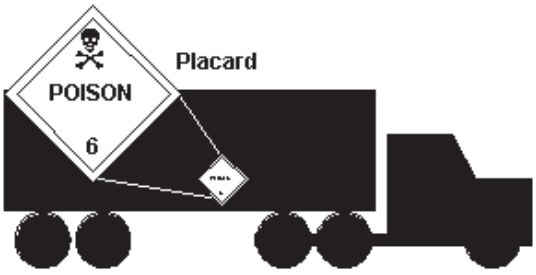


Labels

A label is a prescribed hazard warning notice that is applied to the outside of shipping containers of hazardous material. Labels identify the primary and subsidiary hazards specific to materials and may give information about handling precautions and prohibitions as well.

If you are transporting hazardous material, the containers must be labeled accordingly. General labeling requirements are contained in ***49 CFR 172, Subpart E***. A table that identifies proper labeling specifications for each hazardous material class and division can be found in ***49 CFR 172.400***. Other sections in ***Subpart E*** address authorized label modifications, label placement, and specifications. ***Title 49, Part 172, Subpart E of the Code of Federal Regulations*** provides a separate section for each authorized label and gives a description and an example of the label. Appendix 4-C, "Placard & Label Specifications," found at the end of this chapter is similar to the one found in the regulations and illustrates some of the general label specifications. It is recommended that for specific information on labeling requirements, you refer directly to ***49 CFR 172, Subpart E***.

4.5.7 Placarding of Carriers



Placards are displayed on each end and each side of a carrier and are used to communicate the hazard to industry personnel, the general public, and first responders. Unless the regulations tell you differently, each person who offers or transports a regulated hazardous material must comply with the placarding requirements.

General placarding requirements are contained in ***49 CFR 172, Subpart F***. Placard specifications for each hazardous material class and division are located in ***49 CFR 172.500-560***. When evaluating placarding requirements you should be familiar with two classification tables, referred to as "Table 1" and "Table 2", located in ***49 CFR 172.504***.

Empty, nonbulk packages containing only the residue of a hazardous material do not have to be placarded. Neither do containers that are cleaned and purged or refilled with a non-hazardous material.

Additional information on placard applicability, placement, specifications, and other requirements can be found in ***49 CFR 172, Subpart F***. You can also view a list of requirements on the Michigan State Police, Motor Carrier Division web site at **www.michigan.gov/msp** or contact the USDOT Hazardous Material Information Center at 800-467-4922.

4.5.8 Materials of Trade

Materials of Trade (MOTs) are hazardous materials that are carried on a motor vehicle for at least one of the following purposes:

- To protect the health and safety of the motor vehicle operator or passengers (e.g., insect repellant, self-contained breathing apparatus, and fire extinguishers);
- To support the operation or maintenance of a motor vehicle or auxiliary equipment (e.g., engine starting fluid, spare battery, and gasoline); or
- When carried by a private motor carrier to directly support a principal business that is not transportation (e.g., lawn care, pest control, plumbing, welding, painting, and door-to-door sales).

Since MOTs are transported in small quantities, usually as part of a business, they are subject to less regulation. ***Title 49, Part 173.6 of the Code of Federal Regulations*** identifies the rules that apply to MOTs, the exceptions, and qualifying factors.

Basically, MOTs do not require shipping papers, emergency response information, placarding, formal training, or record keeping. However, if you operate a vehicle containing MOTs, you must know the materials are hazardous and you must be aware of the requirements for MOTs. There are some packaging and marking requirements that apply to certain MOTs that are explained in ***49 CFR 173.6***.

If you would like more information about MOTs, you can visit the Research and Special Programs Administration (RSPA), Hazmat Safety web site at **http://hazmat.dot.gov**. At this site you can download a helpful brochure entitled, *"What Hazardous Materials Regulations Apply to Materials of Trade?"* In addition, you can view *Hazardous Materials Regulations*, copies of the latest rulemakings, exemptions, clarifications of the regulations, Hazmat publications, and training schedules.

You can also call the USDOT's Hazardous Materials INFO-LINE at 800-467-4922 for more information about Materials of Trade.

4.5.9 Loading and Unloading, Compatibility, and Packaging of Hazardous Materials

Regulations pertaining to the loading and unloading of hazardous material to and from a motor carrier are contained in ***Title 49, Part 177, Subpart B of the Code of Federal Regulations***. ***49 CFR 177, Subpart B*** identifies the general unloading and loading regulations that apply to all hazardous material transportation and specific regulations that pertain to the unloading and loading of a particular class or division of hazardous material. Since there are so many regulations that refer to specific materials, it is best to find them in the regulations cited above. In addition to these federal regulations, specific unloading and loading instructions for flammable and combustible liquids are provided in administrative rules ***R 29.2201-2234***, promulgated under the ***Michigan Fire Prevention Code, Public Act 207 of 1941, as amended***.

Both shippers and carriers are responsible for compatibility. The requirement for shippers to comply with compatibility considerations is contained in ***49 CFR 173.22***. These provisions are provided to ensure that incompatible substances are segregated during transport. In order to determine compatibility for shipments by highway, shippers and carriers should refer to ***49 CFR 177.848***, ***Segregation of Hazardous Materials***.

General requirements for packaging and packages are contained in ***49 CFR 173.24***. This section addresses topics like applicability, specifications, compatibility, closures, and venting. Empty packages are regulated under ***49 CFR 173.29***. Except where otherwise stated, empty packaging that contains only the residue of a hazardous material shall be offered for transportation and transported in the same manner as when it previously contained a greater quantity of that hazardous material.

4.5.10 Michigan Requirements

Michigan's Motor Carrier Safety Act, Public Act 181 of 1963, as amended, adopted the ***Federal Hazardous Materials Regulations*** into state law. Aside from these regulations, there are some additional requirements that have been implemented by the state to further regulate the transportation of materials.

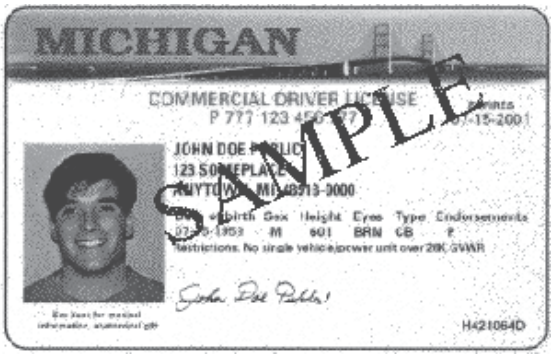
Permits and registration:

The ***Hazardous Materials Transportation Act, Public Act 138 of 1998***, regulates some waste transporters. Transporters of hazardous waste in Michigan must register with the National Uniform Program and obtain a National Uniform Program Permit. In Michigan, this program is administered by the MDEQ, WHMD. In addition, liquid industrial waste transportation is managed under a separate, parallel program called the Michigan Liquid Industrial Waste Uniform Program. If you transport liquid industrial waste, you must obtain a permit from and be registered with the Liquid Industrial Waste Uniform Program.

Upon issuance of the Uniform Credentials, a copy of the credentials must be carried in all vehicles transporting hazardous waste or liquid industrial waste in Michigan. The registration and permit application for both programs, as well as completion instructions and other information, can be downloaded off the Internet at **www.deq.state.mi.us/wmd/HWP/uniftrans.html**. You may also contact the Hazardous Waste Program Section of the WHMD at 517- 373-0263.

License requirements:

In Michigan, you are required to obtain a commercial drivers license (CDL) to operate a commercial vehicle. In addition to this certification, special endorsements on your CDL are required to transport certain cargo.



A Hazardous Materials Endorsement (“H”) is necessary for any vehicle, regardless of gross vehicle weight rating (GVWR), that needs to be placarded under the ***Federal Hazardous Materials Regulations***.

A Tank Endorsement (“N”) is required for anyone operating a tank vehicle, according to the ***Michigan Vehicle Code, Public Act 300 of 1949, as amended***.

For more information about Michigan hazardous material transportation requirements, contact the Michigan State Police, Motor Carrier Division, at 517-336-6580 or visit their web site at www.msp.state.mi.us/mcd.

4.6 Where To Go For Help

SUBJECT	**Secondary containment of flammable and combustible liquids (Act 207)**
CONTACT	DEQ, Waste and Hazardous Materials Division
TELEPHONE	(517) 373-8168
WEB SITE	**www.michigan.gov/deq** "Land" "Storage Tanks"
SUBJECT	**Secondary containment of flammable and combustible liquids (MIOSHA)**
CONTACT	CIS, Consultation Education & Training Division
TELEPHONE	(517) 322-1809
WEB SITE	**www.michigan.gov/cis**
PUBLICATIONS	1. Onsite Consultation Abatement Method Advice For: Flammable & Combustible Liquids (OSC-113)
SUBJECT	**Secondary containment of hazardous waste (DEQ)**
CONTACT	DEQ, Waste and Hazardous Materials Division, District Office
TELEPHONE	See Appendix C for phone numbers
WEB SITE	**www.michigan.gov/deq** "Waste" "Hazardous Waste" "Hazardous Waste Management" "Spill Protection and Reporting"
PUBLICATIONS	1. The Guide to Understanding Secondary Containment Requirements in Michigan
SUBJECT	**Secondary containment for polluting materials (DEQ)**
CONTACT	DEQ, District Office
TELEPHONE	See Appendix B for phone numbers
WEB SITE	**www.michigan.gov/deq** "Assistance & Support Services" "Environmental Reporting" "Emergency Planning"
PUBLICATIONS	1. Pollution Incident Prevention Plan (PIPP) and Part 5 Rules and Information Packet
SUBJECT	**PCB storage**
CONTACT	EPA Region 5
TELEPHONE	(312) 886-7061
WEB SITE	**www.epa.gov/pcb**
PUBLICATIONS	1. Notification of PCB Activity (Form 7710-53) 2. PCB Transformer Registration (Form 7720-12)
SUBJECT	**Transportation of hazardous material-USDOT**
CONTACT	Michigan State Police, Motor Carrier Division, Hazardous Materials Section
TELEPHONE	(517) 336-6580
WEB SITE	**www.michigan.gov/msp** "Services to Governmental Agencies" "Motor Carrier Division" "Hazardous Materials"
SUBJECT	**Transportation of hazardous material-USDOT**
CONTACT	U.S. Department of Transportation
TELEPHONE	(800) 467-4922
WEB SITE	**hazmat.dot.gov**
PUBLICATIONS	1. Hazardous Materials Registration Program 2. How to Comply with Federal Hazmat Regulations 3. Do You Offer or Transport Hazardous Materials in Commerce? 4. What Hazardous Materials Regulations Apply to Materials of Trade? 5. An Overview of the Federal Hazardous Materials Transportation Law 6. Hazardous Materials Registration Statement (DOT F 5800.2) 7. Endorsement for Motor Carrier Policies of Insurance for Public Liability Under Sections 29 and 30 of the Motor Carrier Act of 1980 (MCS-90)